Name:

p1105: Factoring when $a = 1$ (v8)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 - 14x + 49$

$$(x - 7)(x - 7)$$

2. Factor $x^2 + 9x + 18$

$$(x + 3)(x + 6)$$

3. Factor $x^2 - 2x - 63$

$$(x - 9)(x + 7)$$

4. Factor $x^2 + 8x + 12$

$$(x + 2)(x + 6)$$

5. Factor $x^2 + 14x + 48$

$$(x + 6)(x + 8)$$

6. Factor $x^2 + 5x - 36$

$$(x + 9)(x - 4)$$

7. Factor $x^2 - 6x - 7$

$$(x + 1)(x - 7)$$

8. Factor $x^2 + x - 6$

$(x + 3)(x - 2)$

9. Factor $x^2 + 2x - 24$

$(x + 6)(x - 4)$

10. Factor $x^2 - 4x + 4$

$(x - 2)(x - 2)$

11. Factor $x^2 + 15x + 54$

$(x + 6)(x + 9)$

12. Factor $x^2 + 4x + 3$

$(x + 3)(x + 1)$

13. Factor $x^2 + 3x - 54$

$(x + 9)(x - 6)$

14. Factor $x^2 + x - 42$

$(x - 6)(x + 7)$

15. Factor $x^2 + 3x - 18$

$(x - 3)(x + 6)$